

CRAW-CRAW IN SIERRA LEONE

BY

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PLATES XVI and XVII

Of all diseases seen in Sierra Leone natives, both in the Colony and Protectorate, none is more widely distributed and few are more productive of physical discomfort and chronic skin lesions than the disease called Craw-Craw in the Creole *patois* of the Liberated Africans. This disease has long been the subject of much speculation. Clarke (1848) who was Senior Assistant Surgeon to the Colony of Sierra Leone referred to it as Kru-Kru and it is here that we see the origin of the name. The description of the condition given by Clarke is :—

‘KRU-KRU. This disease is characterised by an eruption which first appears in small pustules between the fingers, on the wrists, arms, hams, legs, and feet ; these pustules becoming confluent are ultimately spread over the body. It, however, sometimes occurs in separate patches on the neck, breast, back and hips, etc., when it is known among the Liberated Africans by the term Krooman’s Kru-Kru. The itching and irritability are very great, which might be expected in a climate where so many debilitating causes exist. Yaws are often associated with this complaint and it is worthy of observation that leprotic disease not unfrequently follows a severe attack of Yaws. Kru-Kru occasionally occurs, in the persons of Europeans.’

Many years later O’Neill (1875) says of Craw-Craw :

‘At first sight a well-marked case suggests the presence of extensive scabies in all its stages of development—the papule, the vesicle, and the pustule ; showing itself first in the clefts of the fingers, front of the wrists, and back of the elbows, seldom being found on the face, and always accompanied with intense itching. It should be stated that all the cases examined, about six in number, were in the persons of negroes, where the native hue of their complexion obscures the blush which, in the case of a “white man” would surround every eruption accompanied with irritation. The papules arise singly and at irregular intervals, increase to the size of a pin’s head, feel firm to the touch, and, on account of the reason above stated, appear of the same colour as the surrounding integument. In some cases the papules arrange themselves in a crescentic form, like ringworm ; still it appears this is accidental, and that the separate and scattered distribution is the more common. In about two days’ time the papule becomes converted into the vesicle, with very little increase in size, and in the course of a couple of days the pustule

is developed, rapidly enlarging, and uniting with those in its immediate neighbourhood. In the height of his suffering the patient tears the pustules, and their liberated and desiccated contents produce large and unsightly crusts. Night or day produces little alteration in the amount of itching, the cool of night tending, if anything, to lessen the irritation. The contagiousness of this disease is so well known that those affected are most studiously avoided. Three days' time is said to be the period at which the complaint shows itself after productive contact and it is popularly believed that, though a person affected should, in search of its riddance, proceed to the Cape of Good Hope or some other cool latitude, the disease which thus merely becomes latent will burst out with all its former vigour when the unfortunate patient returns to the warmth of the tropics. Sulphur, so beneficial in scabies, is here of doubtful efficacy, and the nostrums of the native "medical man" have frequently failed in bringing relief after six months' application.

Kennan (1909) examined cases of Craw-Craw in Sierra Leone and in the Gold Coast Colony, and concluded that the disease, acute Craw-Craw, had an onset resembling that of an acute exanthem with a temperature at the earliest stage of 101-102°F. associated with definite constitutional symptoms—vertigo, headache, malaise. The rash which was vesiculo-papular in the earliest stages might be practically universal, but most commonly affected the exterior aspects of the arms and legs. Itching was not a prominent symptom in his cases and was commonly absent, especially in the earlier stages; when present later it usually disappeared before the rash had gone. He noted that all the cases seen were amongst natives and that they were mostly adult young men, not always of the poorest or dirtiest class. Kennan, as a result of his observations, concluded that the disease was contagious and that many cases are overlooked or diagnosed as scabies, etc.

Castellani and Chalmers (1919) say :

'Under the term Craw-Craw, African natives denote practically any pruriginous skin disease. Our African experience has taught us that most of the so-called Craw-Craw cases are cases of neglected scabies or of tinea corporis, or what Daniels and ourselves call cooly itch. *We apply the term Craw-Craw to a dermatosis met with in Africa, in Ceylon, and in various parts of the tropics, characterised by the presence of numerous hard, almost horny papules occasionally slightly exfoliating at the top, varying in size between a millet seed and a small pea. Some of the papules may be follicular. They are not of constant shape; some may be roundish and flattened, and others acuminate.*' [Italics not in original.]

Macleod (1920) says :

'Craw-Craw is a generic name which has been applied indiscriminately in West Africa both by white men and natives to various skin affections generally characterised by itching and pustulation. In 1875 O'Neill described under this heading a vesico-pustular affection which suggested scabies in its clinical characters and distribution. According to Bennett the uneducated natives of Calabar

employed the name for practically all skin diseases, while the more intelligent natives limited its application to three conditions, namely leprosy or bad Craw-Craw, *Tinea circinata* or Krooboy's Craw-Craw, and Craw-Craw proper, a papulo-vesicular disease which he believed to be pustular eczema. Under the same heading Plehn has described among the natives on the Cameroon coast a papular dermatitis which chiefly attacks the inside of the thighs. Emily has used the name in the French Congo for a chronic pustular disease which began as a reddish brown spot, was excoriated by scratching, and transformed into a superficial ulcer the floor of which gradually became covered with pale granulations secreting thick tenacious pus.

'The above are a few examples of the wide use of the term, but there are many others and except as an interesting native name it might well be abandoned.'

Manson's *Tropical Diseases* (1921) states that :

'the hard horny papules of crawl-craw have to be differentiated from scabies, which is common in African natives.'

An opportunity was found in 1923-4 for observing large numbers of cases of Craw-Craw during an expedition through the Protectorate of Sierra Leone. The native names of several diseases are given below and it will be seen that Craw-Craw is distinguished in all these native tongues from leprosy, small-pox, and yaws. Each of these diseases is recognised clearly and the signs and symptoms are well known to the natives. The Creole word popularly used for small-pox is of some interest, 'Big Daddy,' *i.e.*, the old man, a term of great respect, denoting the legend by which the disease is associated, with the apparition of an aged man in the early epidemics.

TABLE I

Native Language	Name of Disease			
	Leprosy	Yaws	Small-pox	Scabies
Creole	Leprosy	Yaws	Big Daddy	Craw-craw
Temne	Arom	Katiri	Kabumbo	Tabool
Foulah	Barashi	Sareh	Badeh	Pohyeh
Mendi	Kpokpoli	Kewei	Bomboi	Nohoi
Limba	Teemo	Bongbo	Sambeh	Mootaki
Susu... ..		Suti	Senyak	Kasi

Those who were suffering from Craw-Craw in the villages were examined: the skin lesions produced for inspection by persons who stated that they were suffering from the disease were very varied and often severe, especially when the disease had been of long duration. In adults the most chronic and severe effects were seen in the gluteal and genital regions, in children carried on the mother's back the skin of the chest, abdomen and thighs were most affected; in older children the finger clefts, hands and arms were the commonest sites. The only regions where the disease was not often seen were the head, palms and sole of the feet. No matter how old the infection, and notwithstanding the multiplicity of lesions of very diverse character which existed at the time of examination in the various parts of the body affected, there were factors common to all cases examined.

- (1) The disease was characterised by itchiness.
- (2) The sufferer, on being asked to point out the source of the trouble, invariably pointed to a minute papule or a vesicle which contained clear and rather viscid fluid.
- (3) The small pustules frequently seen near the vesicles were considered no longer to contain the source of the disease, because scratched.
- (4) The papules and vesicles which appeared to have an unbroken surface, were always found, with the hand-lens, to have a minute opening, usually central in position.

Especially in the gluteal region great thickening of the skin with the production of cicatrices, crusts and scales as a result of continual scratching and secondary infection was the rule. The armpit frequently presented a similar condition. But in small islands of healthy-looking skin the same small papules and vesicles would be indicated as the origin of the disease.

When the disease was fairly generalised over the body and of recent origin, the patient often had malaise and explained that he felt sick, that his stomach was out of order and that he had fever and headache. This condition was to some extent analogous to that described by Kennan as 'acute Craw-Craw' except that in these cases, itching of the papules and vesicles was constantly complained about.

METHODS OF EXAMINATION USED

All that could be seen in the recent papule and vesicle was a small aperture surrounded by minute scales of dried epidermis. Dissecting out with needles was tried in the case of the fingers, the hand being placed on the stage of the dissecting microscope. In this way the parasite was discovered on several occasions, while on other occasions its eggs were found, and also the immature stages. In morphology the parasite found was not distinguishable from *Sarcoptes scabiei*.

The difficulty attending the discovery of the acarine of scabies in black skins has been referred to by Carlyle-Johnstone (1924).

In reviewing the Biology and Pathology of the natives of the Central Kavirondo District, Kenya Colony, he says :—

‘Scabies, from which large numbers of the children suffer and which is not uncommon in adults, causes quite a lot of disability. As a result of scratching septic conditions often supervene. It is interesting to note that the causative organism of this disease has not yet been isolated. The cases were diagnosed as scabies on clinical grounds alone and they responded to ordinary sulphur treatment.’

CRAW-CRAW OR SCABIES IN SIERRA LEONE

The conclusion reached as the result of studying the history, and careful physical examination including the use of the hand-lens, was that the disease called Craw-Craw by the Sierra Leone Creole and the disease of which the various native names were translated as Craw-Craw is none other than scabies. The discovery of the parasite in many typical lesions of Craw-Craw cases confirmed this. It is usually assumed that the parasite of scabies is easily found. In my experience this is not so even in the white skin ; in the black skin the discovery of it is by no means easily made ; those who distinguish Craw-Craw from scabies state that the two conditions can be separated from each other since in Craw-Craw the mite is not found. It is not necessary to consider such conditions as that called Craw-Craw by Castellani and Chalmers. It seems rather like piracy to describe for Africa and Ceylon a new disease and use the name Craw-Craw for it in quite an arbitrary fashion. Craw-Craw, after all, is the Sierra Leone name of a disease which occurs in Sierra Leone and a very definite disease at that.

Its main characters are that it is a contagious disease which may affect persons of any age, and which takes the form of a definite eruption on the skin. It may be localised or generalised and any part of the body may be affected ; with the exceptions referred to above. It may have an acute onset and produce in its early stages definite constitutional symptoms depending upon the intensity of the infestation. The early lesion is a minute papule with an opening which is visible only by the use of a lens ; this is followed by a vesicle and this in turn by a pustule. The greyish burrow characteristic of scabies in the white skin is not observed in the black skin, nor is the faecal discolouration observed. This renders the diagnosis less obvious. If treated efficiently the disease stops at any stage so far described. But owing to non-recognition of the cause of the disease and to the appropriate treatment not being applied, the disease is allowed to assume a chronic form in which it is maintained by severe scratching ; this process assists not only in spreading the infection to healthy skin, but also produces from sepsis serious lesions in the affected area. Thus one sees in cases of some years standing affecting the gluteal and genital regions a very remarkable appearance. The skin is fissured and cracked, and covered with cicatrices and horny papules and ridges, an eczematous condition is frequently seen and ulcers of varying size. At this stage cases are difficult to treat and are often intractable because the skin condition is such that efficient treatment cannot well be tolerated.

Thus Craw-Craw here presents characters which are common to it and scabies as seen in England, but it presents additional features which result from prolonged and neglected infection, and which are seldom seen in England.

The recognition of the fact that Craw-Craw here is scabies is important, because as for scabies everywhere, early treatment of a somewhat drastic kind is essential for its eradication.

In the course of examination of patients for Craw-Craw, I found, as previous observers have done, cases in which the skin in the papules was infected with nematode larvae. These larvae are not the cause of Craw-Craw as they are frequently found in parts of the body which are not affected with Craw-Craw, and, furthermore, they are found in the normal looking skin of some persons who

are not suffering from Craw-Craw; they appear in these cases to give rise to no local or general symptoms by their presence.

SUMMARY

1. The disease called Craw-Craw in Sierra Leone is identical with scabies.

2. When the eruption is generalised and of recent origin, it sometimes corresponds to the condition described by Kennan as 'acute Craw-Craw.'

3. The parasite which gives rise to it is identical morphologically with *Sarcoptes scabiei*.

4. The parasite is frequently very difficult to discover in the black skin.

5. From long persistence in an untreated condition the disease often causes severe lesions in the skin.

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EXPLANATION OF PLATE XVI

FIG. 1. Craw-Craw affecting the thigh, scrotum and penis.

FIG. 2. Craw-Craw affecting the left armpit.

FIG. 3. Craw-Craw of buttocks, three months' duration.



FIG. 1

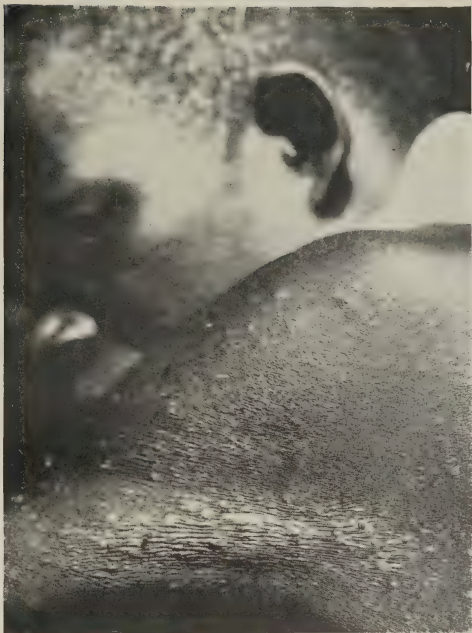


FIG. 2



FIG. 3

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